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1 A method of interactive visualization of CAD surface models on a   80%
color video display
Peter R. Atherton
Proceedings of the 8th annual conference on Computer graphics and
interactive techniques August 1981
> To introduce rendered surface display technology into the
> production design environment, many CAD operations envision a
> single color video display device for download processing of
> selected model pictures. Creation of a single image from a typical
> industrial CAD model involving a large number of higher order
> curved surfaces will normally require a minimum of several
> minutes' delay for data acquisition and visible surface
> computation. This paper describes a method that exten ...

2 Three dimensional computer graphics for craniofacial surgical   77%
planning and evaluation
Michael W. Vannier , Jeffrey L. Marsh , James O. Warren
Proceedings of the 10th annual conference on Computer graphics and
interactive techniques July 1983
> The understanding of complex craniofacial deformities has been
> aided by high resolution computed tomography. Nonetheless, the
> planar format limits spatial comprehension. Reconstruction of fully
> three-dimensional bony and soft tissue surfaces from high
> resolution CT scans has been accomplished by a level slicing edge

detector coupled to a hidden surface processor without perspective depth transformation. This method has clarified aberrant anatomy, facilitated surgical planning and improved q ...

3 A knowledge-based decision support system for flexible   77%

manufacturing

D. H. Norrie , R. Fauvel , B. R. Gaines , M. Mowchenko
Proceedings of the second international conference on Industrial and engineering applications of artificial intelligence and expert systems
June 1989

A decision support system is under development for planning in flexible manufacturing, using a consortium of knowledge-based systems utilizing expert system, database, and simulation techniques. An object-oriented approach is incorporated. There are six basic modules: machine selection optimizer; database; production flow analyzer; rapid modelling techniques system; FMS simulator; supervisor.The prototype of the machine selection optimizer has been developed, tested, and is under ...

4 Image-based modeling and rendering: Interactive reconstruction 77%

of virtual environments from photographs, with application to scene-of-crime analysis

Simon Gibson , Toby Howard
Proceedings of the ACM symposium on Virtual reality software and technology October 2000

There are many real-world applications of Virtual Reality that require the construction of complex and accurate three-dimensional models, suitably structured for interactive manipulation. In this paper, we present semi-automatic methods that allow such environments to be quickly and easily built from photographs taken with uncalibrated cameras, and illustrate the techniques by application to the real-world problem of scene-of-crime reconstruction.

5 Machine interpretation of CAD data for manufacturing   77%

applications

Qiang Ji , Michael M. Marefat
ACM Computing Surveys (CSUR) September 1997
Volume 29 Issue 3

Machine interpretation of the shape of a component for CAD databases is an important problem in CAD/CAM, computer vision, and intelligent manufacturing. It can be used in CAD/CAM for evaluation of designs, in computer vision for machine recognition and machine inspection of objects, and in intelligent manufacturing